

STORMS AND WEATHER WARNINGS

WASHINGTON FORECAST DISTRICT

Storm warnings were ordered on the morning of the 2d from Delaware Breakwater to Boston and during the day were extended northward to Eastport. On the 3d warnings were displayed between Norfolk and Charleston and on the morning of the 4th extended northward to Boston, and that evening northward to Eastport. On the 5th warnings were changed to northwest between Boston and Nantucket. On the 7th southwest warnings were hoisted between Cape Hatteras and Eastport, and continued on the following day north of Delaware Breakwater.

Warnings were again ordered on the afternoon of the 15th between Delaware Breakwater and Eastport and continued on the 16th north of Nantucket, and warnings were ordered between Delaware Breakwater and Wilmington. The morning advices of the 19th to shipping for strong west and northwest winds off the middle and North Atlantic coasts, possibly reaching gale force at times, were supplemented on the evening of that date by the issuance of storm warnings between Delaware Breakwater and Portland, Me., and on the morning of the 20th by storm warnings north of Portland to Eastport. Warnings were again displayed on the 29th between Norfolk and Eastport, but winds did not reach the force expected. On the morning of the 31st southwest warnings were disseminated from Eastport to Jacksonville and were continued on the following day north of Sandy Hook.

The conditions experienced by Colonel Lindbergh for his nonstop flight from Washington, D. C., to Mexico City, December 13-14, were characterized by him as "exactly as predicted."

Small-craft warnings were displayed on the 14th for the middle and North Atlantic coasts, on the 15th for the East Gulf coast, on the 16th and 24th on the middle and South Atlantic coasts, and on the 28th for the East Gulf coast.

Frost warnings were issued for the East Gulf States on the 3d and on the 5th for the South Atlantic and portions of the East Gulf States. Cold-wave warnings were ordered on the 7th for portions of Mississippi, Kentucky, and Tennessee, and on the 8th freezing temperatures were indicated for the South Atlantic and East Gulf coasts, and frosts in Florida. Frosts also were indicated for Florida on the 9th and 17th. Warnings for freezing temperatures were disseminated on the 19th for the South Atlantic and East Gulf States except central and southern Florida. On the following morning these warnings were repeated and extended to include central Florida. Frosts were again indicated for northwest Florida and Alabama.

On the morning of the 30th cold-wave warnings were ordered for portions of Tennessee and Kentucky and on the evening of that date for Alabama, Mississippi, extreme northwest Florida, West Virginia, western Pennsylvania, and Kentucky and Tennessee. On the morning of the 31st cold-wave warnings were ordered for the District of Columbia, the west portions of Maryland, Virginia, and North Carolina.—*R. H. Weightman.*

CHICAGO FORECAST DISTRICT

The outstanding features of the weather were the severe storm of the 6th-8th and the month's coldness in the northwestern portion of the district. The storm

in question was one of the severest in this forecast district in recent years, while the month was either the absolute coldest or one of the coldest Decembers in more than half a century in the Dakotas and Minnesota. At Bismarck, N. Dak., the daily minimum temperature was below zero every day, but three.

The weather conditions were active during the first 15 days and the last 5 days of the month, with a very quiet period from the 16th to the 20th.

Storm warnings for the Great Lakes.—Conditions required the issuance of either small-craft or storm warnings for the Great Lakes on five occasions before the season came to a close on the 15th. After the 15th two advisory warnings were issued for shipping on Lake Michigan.

As indicated in the foregoing, the storm of the 6th-8th was of great severity. Popularly it was called a blizzard, and doubtless this characterization fits scientific usage in most respects. The genesis of the storm was somewhat unusual. It appeared to form over the northern Rocky Mountain region on the night of the 4th-5th, whence it moved slowly southeastward during the following 36 hours to the Texas Panhandle with a steady development. From Texas a recurve to the northeastward was begun. By the time the center had reached the middle Mississippi Valley on the morning of the 7th the storm had acquired considerable intensity. However, there was a further marked development during the following 24 hours. Whole gale or even hurricane force was reached over a wide area during this latter 24-hour period. At Buffalo, N. Y., the hourly maximum velocity was between 80 and 86 miles for 12 consecutive hours. At that port the storm caused damage approximating \$700,000. About 30 lake steamers dragged anchors and some went aground, while others were considerably damaged by crashing into each other. A number of small craft were wrecked. At other points on the Great Lakes vessels underwent a severe battering and a number were driven aground. No loss of life is known to have occurred, owing to the daring rescue work by Coast Guard men and others.

The warnings issued for this storm were especially timely. On the 7th, 12 hours or so before the storm became of great intensity, the regular forecasts made mention of the great severity expected and shipping was advised to exercise the utmost caution.

Ice blockade.—An ice blockade similar in character to that which occurred last year began near the "Soo" about the 10th. The blockade was broken temporarily a few times, but in the end it became necessary for 23 boats to winter in the ice, 16 of them being on the American side of the river and 7 on the Canadian side.

Cold waves.—Seven occasions during the month required the issuance of cold-wave warnings. Some of these warnings were for limited areas, but those issued on the 5th-7th, 14th-15th, and 29th-31st were more or less general in scope. In a few cases cold waves occurred over small areas without previous warning. Both the cold wave that followed the severe storm described in the foregoing and the one at the close of the month were severe. At Cairo, Ill., the temperature fell to 2° below zero on the morning of January 1, 1928. The accompanying area of high barometer was of great magnitude, with a sea-level pressure of 31.22 inches at Miles City, Mont., at 7 p. m. December 31.

Stock warnings.—Warnings for stock were issued on the 6th and 14th for Kansas and Nebraska and on the 28th for South Dakota and Nebraska.—*C. A. Donnel.*